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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION

13 IMPINJ, INC.,
14 Plaintiff,
15 v.
16 NXP USA, INC.,
17 Defendant.

Case No. 4:19-CV-03161-YGR
**NXP USA, INC.'S RESPONSE TO
IMPINJ, INC.'S RENEWED MOTION
FOR JUDGMENT OF NO
INVALIDITY UNDER FED. R. CIV.
P. 50 (DKT. 444)**

Hearing Date: September 1, 2023
Time: 2:00 P.M.
Location: Courtroom 1, 4th Floor
Judge: Yvonne Gonzalez Rogers

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1 **I. INTRODUCTION**

2 NXP has shown in its new trial motion (Dkt. 446) that the jury's verdict on the validity of
 3 U.S. Patent No. 9,633,302 ("the '302 patent") is irreconcilably inconsistent—
 4 independent claim 1 cannot be valid if, as the jury found, claims 4 and 7 are invalid. To avoid the new trial dictated by
 5 precedent, Impinj now asks the Court to enter judgment as a matter of law on the '302 patent's
 6 validity. But doing so would be reversible error. Substantial evidence supports the jury's
 7 findings of invalidity of claims 4 and 7, and thus there is no basis to grant Impinj's motion. A
 8 new trial is required on the entirety of the '302 patent. Accordingly, NXP's motion for new trial
 9 should be granted, and Impinj's Rule 50(b) motion should be denied.

10 The '302 patent's claims are not complicated. They require an RFID integrated circuit
 11 (IC) with a substrate and two antenna contacts that are separated by a channel with a particular
 12 shape. NXP's expert Dr. Vivek Subramanian testified that claims 1, 3, 4, and 7 would have been
 13 obvious to a person of ordinary skill in the art in view of U.S. Patent No. 6,246,327
 14 ("Eberhardt"), which discloses large printed antenna pads, combined with the teachings of
 15 published application US 2011/0139501 ("Ching-San"), which discloses conductor pins with
 16 particular shapes that improve fluid flow. Impinj and its expert Dr. Scott Thompson do not
 17 dispute that all but one limitation of claim 1, and the additional limitations recited in claims 4 and
 18 7, were disclosed by Eberhardt alone. The only dispute concerns limitation 1(f) and the
 19 additional limitation recited in claim 3, both of which are directed to the shape of the channel.
 20 Dr. Subramanian explained that, although Eberhardt alone does not disclose a channel with the
 21 required shape, a person of ordinary skill in the art would have looked to Ching-San's teachings
 22 to modify the shape of Eberhardt's large pads and thus the shape of the channel separating the
 23 pads. The combination meets the requirements of limitation 1(f) and claim 3.

24 Impinj argues there was no evidence to support a motivation to combine Eberhardt and
 25 Ching-San. The core of Impinj's argument is that Ching-San concerns flip chip assembly and
 26 Eberhardt teaches away from using flip chip assembly. But Impinj's argument ignores
 27 Eberhardt's express teachings. Eberhardt's stated objective was to reduce the cost of a feature
 28 that improves flip chip assembly. Eberhardt recognized that large interconnection pads facilitate

1 flip chip assembly by (1) increasing the area for electrical coupling between the pads and the
 2 antenna, and (2) making it easier to align the pads with the antenna's conductive traces. But
 3 because large interconnection pads were relatively expensive using prior art techniques,
 4 Eberhardt proposed printing the pads to reduce costs. Thus, Eberhardt does not teach away from
 5 flip chip—it discloses features that improve and reduce the cost of flip chip assembly.

6 Impinj also asserts that combining Eberhardt and Ching-San "contradicts Eberhardt's goal
 7 to make its pads as large as possible," and "**could** affect the operability of Eberhardt's IC." (Dkt.
 8 444 at 18 (emphasis added).) These arguments are baseless. Eberhardt's objective is to enlarge
 9 its pads, not make them "as large as possible." And reshaping Eberhardt's large pads according
 10 to Ching-San's teachings still would result in pads that are substantially larger than the bumped
 11 pads on the surface of the IC that Eberhardt sought to improve, achieving Eberhardt's objective.
 12 Nor does Impinj point to any evidence suggesting the combination would render Eberhardt's IC
 13 inoperable. Instead, Impinj improperly assumes that a person of ordinary skill would blindly
 14 combine Eberhardt and Ching-San without accounting for the IC's design or applying
 15 engineering principles. This contravenes established Supreme Court and Federal Circuit
 16 precedent counseling that a person of ordinary skill employs common sense to fit the teachings of
 17 multiple prior art references together like pieces of a puzzle.

18 Finally, Impinj contends that Dr. Subramanian did not account for evidence of secondary
 19 considerations. But this argument was waived when Impinj failed to raise it in its Rule 50(a)
 20 motion. Regardless, the argument is meritless because Dr. Subramanian squarely addressed
 21 Impinj and Dr. Thompson's alleged evidence of secondary considerations.

22 Drawing all reasonable inferences in NXP's favor, there is more than sufficient evidence
 23 to support a verdict finding claims 1, 3, 4, and 7 invalid for obviousness. Impinj's motion for
 24 judgment as a matter of law should be denied.

25 **II. BACKGROUND**

26 **A. The '302 Patent and Asserted Claims 1, 3, 4, and 7**

27 Claim 1 of the '302 patent is an independent claim directed to an RFID integrated circuit
 28 (IC) that has a substrate and two antenna contacts separated by a channel. Ex. 2 ('302 patent) at

1 21:8-28.¹ The only allegedly novel aspect of claim 1 is the channel's shape, which makes it
 2 easier for adhesive to flow through the channel. *See* Dkt. 444 at 5 n.4 (conceding that
 3 “[l]imitations 1(pre) through 1(e) were not disputed” in the invalidity analysis, and that
 4 “limitation 1(g) is not afforded patentable weight”). Specifically, the channel is shaped so that
 5 the cross-section is smaller at its center than at its ends, similar to an hourglass shape. Ex. 2 at
 6 21:22-26, Abstract; Tr. at 1017:10-20. Claim 1 recites a preamble, six substantive limitations,
 7 and one non-substantive limitation, as follows:

Claim 1, preamble	A Radio Frequency Identification (RFID) integrated circuit (IC) comprising:
1(a)	an IC substrate;
1(b)	a first antenna contact disposed on, and confined within a perimeter of, a surface of the IC substrate; and
1(c)	a second antenna contact disposed on, and confined within the perimeter of, the surface of the IC substrate; wherein:
1(d)	the first and second antenna contacts are separated by a channel having a first end, a second end opposite the first end, and a center between the first end and the second end;
1(e)	the channel spans a majority of a width of the IC substrate;
1(f)	a first transverse channel cross-section at the first end is substantially the same size as a second transverse channel cross-section at the second end and substantially larger than a third transverse channel cross-section at the center; and
1(g)	the channel is shaped to facilitate a fluid flow from the center to the first and second ends.

18 In granting summary judgment of infringement, the Court ruled that limitation 1(g) is a non-
 19 substantive limitation that is not entitled to patentable weight. Dkt. 339 at 11, 18. The Court
 20 instructed the jury that “mean[s] that a prior art reference does not need to disclose this
 21 [limitation] to invalidate the claim.” Dkt. 427 at 4.

22 Claims 3, 4, and 7 depend from claim 1. Claim 3 adds a limitation requiring the channel
 23 to have a non-convex shape. Ex. 2 at 21:33-34; Tr. at 1038:13-23. Claim 4 adds a limitation
 24 requiring the channel to be symmetric. Ex. 2 at 21:35-37; Tr. at 1039:7-18. And claim 7 adds
 25 limitations requiring the antenna contacts to include a raised nonconductive structure with a
 26 conductive layer on top. Ex. 2 at 21:45-49; Tr. at 1040:2-7.

27
 28 ¹ All exhibit numbers and transcript citations refer to trial exhibits and trial testimony.

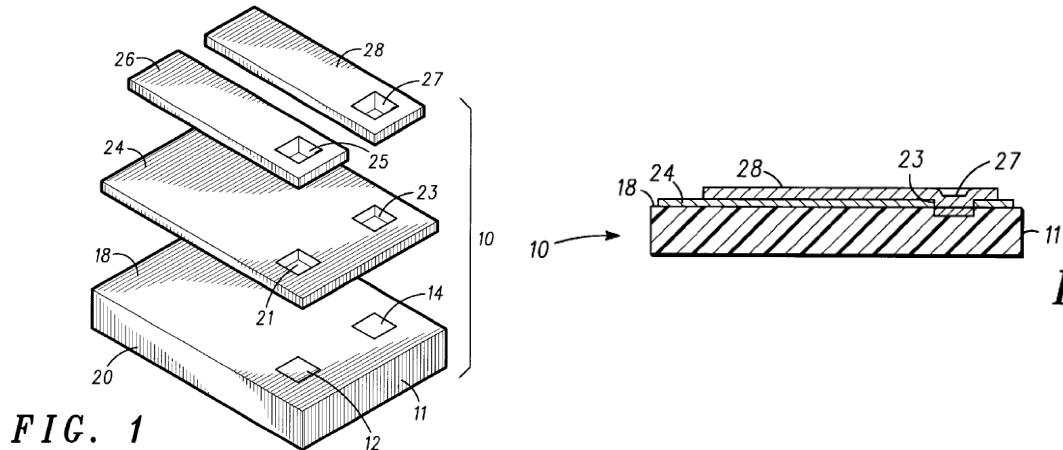
1 It is undisputed that the '302 patent is subject to the America Invents Act and stems from
 2 an application with an earliest effective filing date of March 31, 2015.

3 **B. Eberhardt Is Prior Art to the '302 Patent**

4 NXP's primary invalidity reference for the '302 patent is U.S. Patent No. 6,246,327
 5 ("Eberhardt"), which issued on June 12, 2001. Ex. 518. Pre-dating the '302 patent's earliest
 6 effective filing date by more than a decade, Eberhardt is prior art to the '302 patent.

7 **1. Eberhardt Proposed Printing Large Interconnection Pads As An
 8 Improvement to Flip Chip Assembly.**

9 Eberhardt is entitled "Radio Frequency Identification Tag Circuit Chip Having Printed
 10 Interconnection Pads." Ex. 518. As the title suggests, Eberhardt claims an RFID chip with
 11 rectangular printed interconnection pads that are substantially larger than the interconnection pads
 12 formed in the surface of the RFID chip. Figure 1 illustrates this. The RFID tag chip 10 has two
 13 small square-shaped interconnection pads, 12 and 14, that are formed in the surface of the chip.
 14 *Id.* at 3:23-32. A layer 24 of insulating material is deposited on top of the surface of the RFID
 15 chip with openings 21 and 23, or apertures, around the two small interconnection pads, 12 and 14.
 16 *Id.* at 3:39-49. Then, two layers 26 and 28 of conductive material are printed on top of layer 24 of
 17 insulating material to form rectangular interconnection pads that are substantially larger than the
 18 small interconnection pads 12 and 14. *Id.* at 3:55-4:32. The enlarged interconnection pads 26
 19 and 28 are used to electrically couple the RFID chip to an RFID tag antenna. *Id.* at 4:24-28.



27 Eberhardt's invention of printing enlarged pads was motivated as an improvement to flip
 28 chip assembly. In particular, Eberhardt recognized that flip chip assembly benefits from having

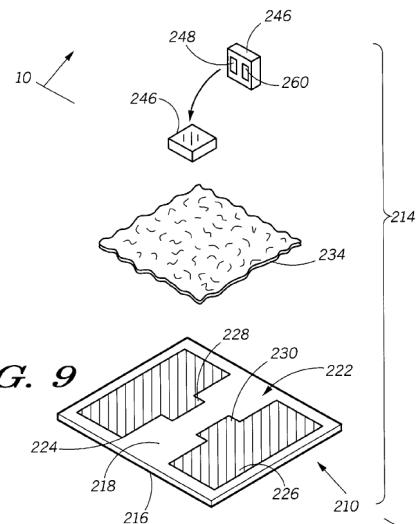
1 large pads. Tr. at 1030:4-16. Eberhardt explained that “‘flip’ chip technology provides raised
 2 conductive regions (‘bumped pads’) on the tag circuit chip (and similarly on the electrical
 3 components).” Ex. 518 at 2:21-23. Eberhardt further explained that, during assembly, the flip
 4 chip “is inverted and positioned to the substrate with the bumped pads **aligning with** and
 5 electrically **coupling to** the conductive traces” of the antenna. *Id.* at 2:23-26 (emphasis added).
 6 In light of how the flip chip is inverted so that the bumped pads can be aligned with and
 7 electrically coupled to the antenna traces on the substrate, Eberhardt recognized, “[a]s will be
 8 readily appreciated, larger interconnection pads on the tag circuit chips provide more area for
 9 coupling between the tag circuit chip and the conductive traces,” and also “makes aligning the tag
 10 circuit chip with the conductive traces easier.” *Id.* at 2:30-35; *see also* Tr. at 1030:4-16.
 11 Eberhardt acknowledged, however, that “large interconnection pads are expensive” using prior art
 12 electroplating techniques. Ex. 518. at 2:35-41. Eberhardt therefore proposed printing the large
 13 interconnection pads to reduce their cost. *Id.* at 6:58-7:5; Tr. at 1030:18-1031:4.

14 2. Eberhardt Incorporates By Reference Other Patents.

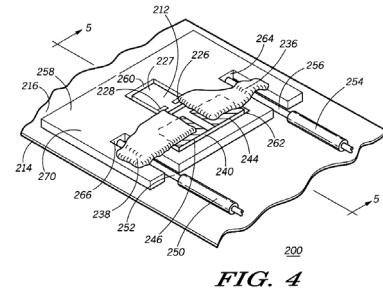
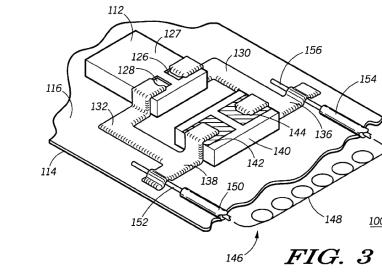
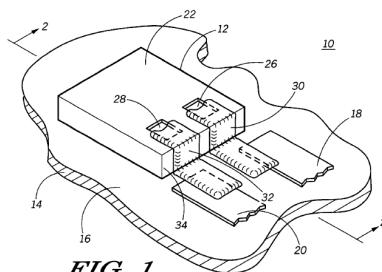
15 Eberhardt incorporates by reference three patents: U.S. Patent 6,107,920 (“Eberhardt-
 16 920”); U.S. Patent 6,018,299 (which was not discussed at trial); and U.S. Patent 6,091,332
 17 (“Eberhardt-332”). Because Eberhardt-920 and Eberhardt-332 are relevant to whether Eberhardt
 18 teaches away from flip chip, an overview of each is provided below.

19 Eberhardt-920 is entitled “Radio Frequency Identification Tag Having an Article
 20 Integrated Antenna.” Ex. 1248. Eberhardt-920 discloses embodiments where the ICs have large
 21 rectangular interconnection pads and the “radio frequency identification tag 214 is formed by
 22 directly joining a radio frequency identification tag circuit chip . . . to an article 210 having an
 23 integrally formed antenna” in a flip chip configuration. *Id.* at 7:19-24; FIG. 9. For example,
 24 Figure 9 of Eberhardt-920 illustrates an IC in the flip chip configuration where the IC is inverted
 25 and the bumped pads 248 and 260 are aligned with and electrically couple to the conductive
 26 traces of an antenna on a substrate, just as described in Eberhardt. *Compare id.* at FIG. 9 with Ex.
 27 518 at 2:21-29; *see also* Tr. at 1180:7-22 (Impinj’s expert Dr. Thompson agreeing that Figure 9 of
 28 Eberhardt-920 illustrates a preferred embodiment using a flip chip assembly); 1181:25-1182:2

1 (same). Eberhardt-920 also teaches that a printed conductive pattern can form a preferred
 2 antenna. Ex. 1248 at Abstract.



11 Eberhardt-332 is entitled “Radio Frequency Identification Tag Having Printed
 12 Interconnections.” Ex. 519. Eberhardt-332 discloses embodiments where an IC is placed on a
 13 substrate with the small interconnection pads facing up. *E.g., id.* at FIGS. 1, 3, 4. Eberhardt-332
 14 teaches that the interconnection pads are electrically coupled to the antenna by printing a layer of
 15 conductive material that extends continuously from the interconnection pads to wherever the
 16 antenna traces are located. Ex. 519 at 4:24-32; *see also id.* at FIGS. 1, 3, 4.



21 Eberhardt-332 teaches that flip chip assembly is preferred in certain circumstances, but
 22 that it presents certain drawbacks. Tr. at 1034:22-1035:6. For example, it explains that “Flip
 23 chip technology is more suited for coupling to printed [antenna] traces, but . . . the bumped pads
 24 provide a thicker overall profile for the tag circuit chip.” Ex. 519 at 3:1-4. Eberhardt-332 also
 25 recognizes that “Flip chip technology adds cost to the tag circuit chip in the forming of the
 26 bumped pads and requires use of a backfill adhesive for good mechanical adhesion to the
 27 substrate.” *Id.* at 3:4-7. Notably, both the cost and thickness issues identified by Eberhardt-332
 28

were specifically resolved by Eberhardt's invention of printing the large interconnection pads. *See* Ex. 518 at 6:58-7:5; Tr. at 1035:8-16 (Dr. Subramanian explaining that Eberhardt's "solution he approaches to these problems is, quite simply, he says print. When you print, you can do the large pads without increasing cost, and you can reduce the overall thickness. . . . And he specifically finds engineering solutions that enable the use of flip chip.").

C. Ching-San Is Prior Art to the '302 Patent

NXP also relies on a patent application that was published on June 16, 2011 as US 2011/0139501. Ex. 521 ("Ching-San"). Because Ching-San's publication date pre-dates the '302 patent's earliest effective filing date by nearly four years, it is prior art to the '302 patent.

Ching-San is entitled "Electronic Chip and Substrate With Shaped Conductor." Ex. 521. Ching-San claims an electronic chip that has conductor pins that have been shaped to create a flow space between two adjacent conductor pins for adhesive to flow through more easily. In particular, Ching-San teaches that the "shape of the cross-section" of prior art conductors or pins were "typically a rectangle." *Id.* at [011]. Because the rectangular corners of the conductor pins were found to restrict flow, the inventors proposed re-shaping the conductor pins by "cutting off four corners of a rectangular" conductor pin, forming a conductor pin that "is substantially an octagonal rectangle." *Id.* at [0019]; *see* FIGS. 1D, 2A, 2B.

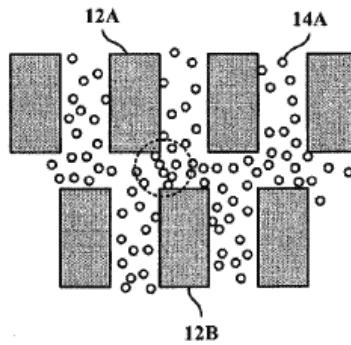


FIG. 1D

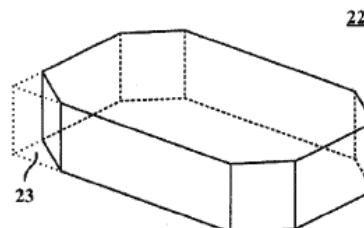


FIG. 2A

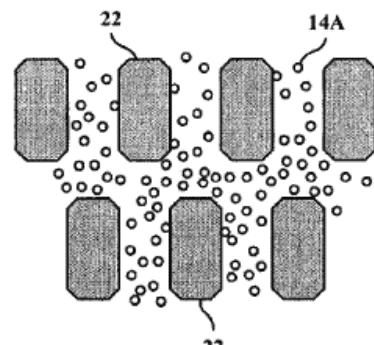


FIG. 2B

By reshaping the conducting pins to remove the corners, the inventors "provide a flow space in the conductive adhesive for conductive particles 14A to flow through" between adjacent conductor pins. *Id.* at [0021]. Consequently, "during the process of compressing together the electronic chip and the external circuit," the adhesive is able to "flow[] relatively easier through

1 the space between the conducting pins" as compared to the prior art rectangular-shaped conductor
 2 pins. *Id.* at [0022]. The inventors also proposed additional shapes for the conductor pins besides
 3 rectangular octagons, including ellipse, rhombus, and curved rectangular-shaped conductor pins,
 4 among others. *Id.* at [0024]; FIGS. 3A-3F.

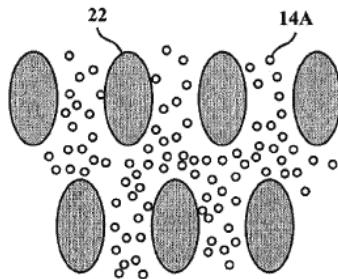


FIG. 3B

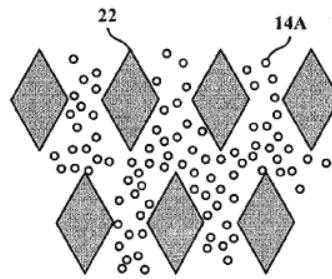


FIG. 3D

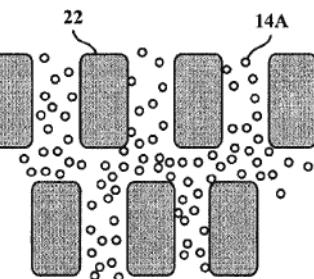


FIG. 3F

5
 6 Ching-San teaches that its invention is broadly applicable, explaining that the "concept
 7 disclosed in the present invention is applicable for use in various kinds of electronic chips and
 8 substrates." *Id.* at [0015].

9 D. Dr. Subramanian's Trial Testimony

10 Dr. Subramanian testified that each of claims 1, 3, 4, and 7 would have been obvious to a
 11 person of ordinary skill in the art in view of Eberhardt combined with the teachings of Ching-San.
 12 Tr. at 996:17-24; 1009:17-1010:12; 1012:6-1024:20; 1029:11-1032:6; 1033:4-1040:23. Dr.
 13 Subramanian explained that every limitation of claim 1 of the '302 patent, except limitation 1(f),
 14 was disclosed by Eberhardt. Tr. at 1012:6-1017:4. And, for limitation 1(f), which requires the
 15 claimed channel's cross-section to be narrower at its center than at its ends, Dr. Subramanian
 16 explained that a person of ordinary skill in the art would have been motivated to combine
 17 Eberhardt with the teachings of Ching-San to modify Eberhardt's large pads so that the cross-
 18 section of the channel separating the pads is smaller at its center than at its ends. *Id.* at 1017:5-
 19 1024:20; 1029:11-1032:6; 1033:4-1038:11. Dr. Subramanian also testified that the additional
 20 limitations of claims 3, 4, and 7 would have been obvious to a person of ordinary skill in the art in
 21 view of the combination of Eberhardt and Ching-San. *Id.* at 1038:12-1040:23.

22 E. The Jury's Verdict Is Irreconcilably Inconsistent

23 Following deliberations, the jury returned a unanimous verdict finding claims 1 and 3 of

1 the '302 patent to be valid and claims 4 and 7 to be invalid as obvious. Dkt. 426. As Impinj's
 2 counsel recognized, but failed to raise before the jury was discharged, the jury's findings are
 3 irreconcilably inconsistent. Dkt. 429. Impinj sought to recall the jury several days after it was
 4 discharged, but the Court denied Impinj's request. Dkt. 442. On July 28, NXP moved for a new
 5 trial on the issue of validity of the '302 patent. Dkt. 446.

6 **III. LEGAL STANDARD**

7 Under Federal Rule of Civil Procedure 50(b), a party may move for judgment as a matter
 8 of law (JMOL) after the jury returns a verdict. Fed. R. Civ. P. 50. "JMOL is proper only 'if the
 9 evidence, construed in the light most favorable to the nonmoving party, permits only one
 10 reasonable conclusion, and that conclusion is contrary to the jury's verdict.'" *Eventbrite, Inc. v.*
 11 *M.R.G. Concerns Ltd.*, 2022 WL 16579319, at *3 (N.D. Cal. Nov. 1, 2022) (quoting *Escriba v.*
 12 *Foster Poultry Farms, Inc.*, 743 F.3d 1236, 1242 (9th Cir. 2014)). "A jury's verdict must be
 13 upheld if it is supported by substantial evidence that is adequate to support the jury's findings,
 14 even if contrary findings are also possible." *Escriba*, 743 F.3d at 1242. Courts should scrutinize
 15 the entire evidentiary record, but "must not weigh the evidence, [and instead] should simply ask
 16 whether the [nonmoving party] has presented sufficient evidence to support the jury's
 17 conclusion." *Id.* (internal quotation marks omitted). Court must draw all reasonable inferences in
 18 favor of the nonmoving party and "disregard all evidence favorable to the moving party that the
 19 jury is not required to believe." *Id.* at 1242-43 (internal quotation marks omitted).

20 "A Rule 50(b) motion for judgment as a matter of law is not a freestanding motion.
 21 Rather, it is a renewed Rule 50(a) motion." *E.E.O.C. v. Go Daddy Software, Inc.*, 581 F.3d 951,
 22 961 (9th Cir. 2009). Because it is a renewed motion, a proper Rule 50(b) motion is limited to the
 23 grounds asserted in the Rule 50(a) motion. *Id.* "Thus, a party cannot properly 'raise arguments in
 24 its post-trial motion for judgment as a matter of law under Rule 50(b) that it did not raise in its
 25 preverdict Rule 50(a) motion." *Id.* (internal quotation marks omitted).

26 ///

27 ///

28 ///

1 **IV. ARGUMENT**

2 Impinj is not entitled to judgment as a matter of law because there is at least substantial
 3 evidence to support a verdict finding claims 1, 3, 4, and 7 of the '302 patent obvious in view of
 4 Eberhardt and Ching-San. Impinj's argument depends on a finding of no substantial evidence to
 5 support a motivation to combine Eberhardt with the teachings of Ching-San. Dr. Subramanian's
 6 testimony, together with the exhibits and other testimony on which he relied, provide ample
 7 evidence that a person of ordinary skill in the art would be motivated to combine Eberhardt and
 8 Ching-San—especially when that evidence is construed in the light most favorable to NXP.

9 **A. Dr. Subramanian Provided Extensive Testimony Showing That the Asserted
 10 Claims of the '302 Patent Are Obvious.**

11 There is substantial evidence that claims 1, 3, 4, and 7 of the '302 patent are invalid for
 12 obviousness. *See, e.g.*, Tr. at 1009:12-1010:12, 1012:6-1024:25, 1029:11-1032:6, 1033:4-
 13 1043:13. Impinj does not even dispute that limitations 1(pre) through 1(e) of claim 1, or the
 14 additional limitations recited by claims 4 and 7, are disclosed by Eberhardt alone. *See* Dkt. 444 at
 15 5 & n.4. Therefore, the parties' dispute centers on limitation 1(f) and the additional limitation of
 16 claim 3, both of which require that the claimed channel's cross-section be narrower at its center
 17 than at its ends.² And Dr. Subramanian provided ample testimony showing that, when
 18 Eberhardt's large rectangular pads are modified according to Ching-San's teachings, the resulting
 19 channel satisfies the shape requirements of limitation 1(f) and claim 3. *E.g.*, Tr. at 1017:5-
 20 1024:25; 1029:11-1032:3; 1033:4-1039:3.

21 **1. Dr. Subramanian's Testimony Provides Substantial Evidence of a
 22 Motivation to Combine.**

23 Substantial evidence supports a motivation to combine Eberhardt and Ching-San. Dr.
 24 Subramanian testified that modifying Eberhardt's large rectangular pads according to Ching-

26 ² The jury asked whether it needed to analyze "obviousness of claim 3 with consideration
 27 of claim 3." Dkt. 428 at 7. But Impinj failed to differentiate that dependent claim from claim 1,
 28 leading the Court to recognize that "if there is no difference, then [claim] 3 is invalid." Tr. at
 1410:6-9. Impinj's failure to separately address claim 3 in its Rule 50(b) motion reinforces that
 that dependent claim rises and falls within independent claim 1.

1 San's teachings would have been a simple substitution of two known elements in the art, and that
 2 the outcome would have been predictable to a person of ordinary skill. Tr. at 1022:8-1023:3. He
 3 explained that Eberhardt and Ching-San both concern flip chip assembly to connect an integrated
 4 circuit to an external circuit on a substrate. *Id.* at 1022:10-16. He also testified that, when used in
 5 a flip chip configuration, Eberhardt's use of large pads with a narrow channel results in what is
 6 called "squeeze flow," a known problem in fluid mechanics. *Id.* at 999:11-20; 1018:5-6; 1021:1-
 7 3; 1022:17-1023:2.

8 Dr. Subramanian explained that "Ching-San identifies a squeeze flow-related problem and
 9 proposes a solution that changes the shape of the pads and, therefore, the shape of the channels"
 10 between the pads. *Id.* at 1018:10-13. He further testified that a person of ordinary skill in the art
 11 would have looked to Ching-San's teachings to address the squeeze flow issue arising from
 12 Eberhardt's use of large pads with a narrow channel. *E.g., id.* at 1009:17-1011:2 (explaining that
 13 "One of skill, using flip chip, would say, if I have this problem with flow, well, Ching-San
 14 specifically addresses that problem with flow and teaches me how to deal with it").³

15 Dr. Subramanian's testimony amounts to more than substantial evidence of a motivation
 16 to combine Eberhardt with the teachings of Ching-San—especially when construed in the light
 17 most favorable to NXP. *See Acoustic Tech., Inc. v. Itron Networked Sols., Inc.*, 949 F.3d 1366,
 18 1376 (Fed. Cir. 2020) ("We have previously determined that expert testimony constituted
 19 substantial evidence of a motivation to combine prior art references and we reach the same
 20 conclusion here." (internal citation omitted)); *see also Escriba*, 743 F.3d at 1242 (explaining that
 21 "court[s] must draw all reasonable inferences in favor of the nonmoving party and disregard all

22

23 ³ *See also* Tr. at 1018:4-13 ("[W]hat Eberhardt is doing is it's doing a problem where
 24 you're getting this squeeze flow . . . And what would one of skill in the art look to? Well, Ching-
 25 San shows exactly this problem. And so one of skill in the art would say, well, Ching-San tells
 26 me how to address the problem. In fact, Ching-San . . . proposes a solution that changes the
 27 shape of the pads and, therefore, the shape of the channels."); 1020:12-21 ("[T]he issues that
 28 [Ching-San is] dealing with would be absolutely relevant and would be something that one
 working on RFID would look to. . . . You're trying to put together two points through an
 adhesive, you're squeezing the adhesive, you're dealing with the consequences of that. So as far
 as sort of the looking to solve the problem, one would absolutely look to this."); 1020:22-1021:3
 ("When you're doing flip chip, you're dealing with the squeeze flow issue. So exactly the issue
 that you see [in Ching-San] is the issue that would happen in Eberhardt.").

evidence favorable to the moving party that the jury is not required to believe" (internal quotation marks omitted)).

2. Impinj's Arguments Misapply the Law and Misconstrue the Evidence.

Impinj's assertions that there is no evidence of a motivation to combine Eberhardt and Ching-San are incorrect as a matter of law.

Impinj argues there is no motivation to combine because “there is no discussion of a ‘squeeze flow’ issue” in Eberhardt, and it does not “say[] that a conductive adhesive must be used.” Dkt. 444 at 10. But the law does not require Eberhardt to expressly recognize the problem motivating the combination. Indeed, the Supreme Court rejected such a rigid approach, in favor of an expansive and flexible approach to obviousness. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 415-422 (2007). “Therefore, motivation to combine may be found explicitly or implicitly in . . . the interrelated teachings of multiple patents; any need or problem known in the field of endeavor at the time of invention and addressed by the patent; and the background knowledge, creativity, and common sense of the person of ordinary skill.” *Plantronics, Inc. v. Aliph, Inc.*, 724 F.3d 1343, 1354 (Fed. Cir. 2013) (internal quotation marks omitted).

Here, Dr. Subramanian testified that squeeze flow is a known phenomenon in fluid mechanics and in particular with flip chip assemblies. Tr. at 999:11-20; 1020:22-1021:3. He also testified that a person of ordinary skill would have recognized that Eberhardt's large pads and narrow channel would result in squeeze flow when used in a flip chip assembly. *Id.* at 1010:1-4; 1018:2-6; 1020:22-1021:3. He explained that using conductive adhesive is "very widely used, not just in the products of this case but in RFID in general, it's very common to do this." *Id.* at 1010:14-1011:2. Dr. Subramanian further testified that a person of ordinary skill in the art would have addressed the squeeze flow in Eberhardt by looking to Ching-San, which dealt with the same squeeze flow-related issue. *Id.* at 1018:4-13; 1020:12-21. Dr. Subramanian's testimony that a person of ordinary skill would have recognized Ching-San's technique would improve Eberhardt's IC is substantial evidence of a motivation to combine. *See KSR*, 550 U.S. at 417 (explaining that, "if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the

1 technique is obvious").

2 Impinj argues that Ching-San does not discuss the same “squeeze flow” problem that is
 3 discussed in the ’302 patent because “Ching-San is focused on adhesive flowing freely under the
 4 IC and around its plurality of bumps” and “teaches that the corners of rectangular bumps only
 5 need to be removed when a bump is adjacent to a second bump.” Dkt. 444 at 12-13. This
 6 argument is wrong both as a matter of law and fact. There is no legal requirement that Ching-San
 7 addresses the *same* “squeeze flow” problem addressed by the ’302 patent. The “law does not
 8 require that the references be combined for the reasons contemplated by the inventor.” *In re*
 9 *Gatabi*, No. 2022-1580, 2023 WL 3477285, at *3 (Fed. Cir. May 16, 2023) (quoting *In re Beattie*,
 10 974 F.2d 1309, 1312 (Fed. Cir. 1992)); *see also KSR*, 550 U.S. at 420 (explaining that “any need
 11 or problem known in the field of endeavor at the time of invention” can form the motivation to
 12 combine). And Dr. Subramanian *did* testify that Ching-San “recognized the very same problem
 13 that the ’302 patent inventor recognized, except he recognized it more than five years before.”
 14 Tr. at 1020:3-5; *see also id.* at 1018:4-13 (explaining that “Ching-San shows exactly this
 15 [squeeze-flow] problem”). Impinj is improperly asking the Court to discount or ignore this
 16 evidence. *Escriba*, 743 F.3d at 1242 (courts “must not weigh the evidence, [and instead] should
 17 simply ask whether the [nonmoving party] has presented sufficient evidence to support the jury’s
 18 conclusion”) (internal quotation marks omitted).

19 Moreover, it does not matter that Ching-San has multiple conducting pins whereas
 20 Eberhardt and the ’302 patent have only two conducting pads. Both concern improving the flow
 21 of fluid *between* two adjacent conductors. *See* Tr. at 1018:18-1019:8 (“But the key is what he
 22 recognized is when you have these flat rectangular structures, adjacent structure[s] He
 23 recognized that the squeezing of adhesive between those structures can cause problems.”);
 24 1019:24-1020:2 (“Well, this is what happens when you squeeze them together. You press them
 25 together. It squeezes the glue, and here you see in the adjacent points or adjacent pads, it causes a
 26 problem.”). And, indeed, Ching-San explains that, “[d]uring the process of compressing together
 27 the electronic chip 10, the conducting adhesive 14 and the external circuit 16, the portions of
 28 conductive adhesive 14 . . . not sandwiched between the conducting pins 12 and the conducting

1 points 18 will be pushed out to the open spaces surrounding” them. Ex. 521 at [0008]. Ching-
 2 San seeks to “provide a flow space in the conductive adhesive for conducting particles to flow
 3 through” between two adjacent conducting pins, and does that by removing the rectangular
 4 corners of those conducting pins. *Id.* at [0019], [0021]-[0022], [0024], [0026]. Similarly, the
 5 ’302 patent seeks to improve the flow of adhesive through the space between two adjacent
 6 antenna contacts, and does that by removing the rectangular corners of the antenna contacts so
 7 that the channel is narrower at its center than at its ends. Ex. 2 at Abstract (“The channel has a smaller
 8 cross-section at its center than at its ends, which facilitates fluid flow from the channel center to
 9 the channel ends.”); *see also id.* at FIGS. 12-13.

10 **B. Eberhardt Does Not Teach Away From Flip Chip—Its Stated Objective Was
 11 To Print Large Pads That Specifically Improve Flip Chip.**

12 Impinj’s no-motivation-to-combine argument is largely based on the assertion that
 13 Eberhardt teaches away from using a flip chip assembly. In particular, Impinj asserts that, by
 14 incorporating by reference Eberhardt-332, Eberhardt teaches away from using flip chip. But
 15 Impinj misunderstands Eberhardt’s teachings, fails to consider all of Eberhardt’s disclosure, and
 16 misapplies the law concerning what constitutes “teaching away.” When Eberhardt’s full
 17 disclosure is considered, the evidence shows that Eberhardt does not teach away from using flip
 18 chip, but actually identifies it as a preferred embodiment in certain circumstances.

19 **1. Eberhardt Teaches That Large Pads Improve Flip Chip Assembly.**

20 Eberhardt’s solution of printing large interconnection pads is directly in response to a
 21 problem Eberhardt identified specifically with respect to flip chip assembly. Eberhardt explains
 22 how flip chip assembly works: the IC is “inverted,” so that it is upside down, “and positioned to
 23 the substrate with the bumped pads aligning with and electrically coupling to the conductive
 24 traces.” Ex. 518 at 2:21-26. Eberhardt then recognizes that the flip chip assembly process is
 25 simplified when the IC has large interconnection pads—because the pads are what align with and
 26 electrically couple to the antenna’s conductive traces. “As will be readily appreciated, larger
 27 interconnection pads on the tag circuit chip provide more area for coupling between the tag circuit
 28 chip and the conductive traces. Additionally, larger interconnection pads on the tag circuit chip

1 makes aligning the tag circuit chip with the conductive traces easier.” *Id.* at 2:30-35. Thus,
 2 Eberhardt explicitly recognizes that having larger interconnection pads improves flip chip in two
 3 specific ways: the larger pads (1) increase the coupling area between the pads and the antenna;
 4 and (2) make it easier to align the pads to the antenna. But Eberhardt also acknowledges that
 5 “large interconnection pads are expensive” when made using prior art bumping technologies. *Id.*
 6 at 2:35-42. This is not teaching away; it is the problem that Eberhardt solved. Eberhardt’s
 7 solution was to reduce the cost of large interconnection pads by printing them. *Id.* at 6:58-7:5.
 8 Accordingly, Eberhardt’s whole objective in printing large pads was to reduce the cost of a
 9 feature that explicitly *improves flip chip assembly*. Tr. at 1030:4-1031:15 (Dr. Subramanian
 10 explaining that Eberhardt teaches “flip chip benefits from having large pads” and that “you can
 11 really reduce the cost by printing them. So he recognizes it’s a problem, but he solves the
 12 problem.”).

13 **2. Eberhardt’s Incorporation By Reference of Eberhardt-332 Does Not
 Teach Away From Flip Chip.**

14 Impinj argues that Eberhardt’s incorporation by reference of Eberhardt-332 teaches away
 15 from using a flip chip assembly. But again Impinj ignores Eberhardt’s full disclosure.
 16

17 “*A reference teaches away when a person of ordinary skill, upon reading the reference,
 18 would be discouraged from following the path set out in the reference, or would be led in a
 19 direction divergent from the path that was taken in the claim.*” *Meiresonne v. Google, Inc.*, 849
 20 F.3d 1379, 1382 (Fed. Cir. 2017) (internal quotation marks omitted). “[T]eaching away requires
 21 ‘clear discouragement’ from implementing a technical feature.” *Univ. of Md. Biotech. Inst. v.
 22 Presens Precision Sensing GmbH*, 711 Fed. App’x 1007, 1011 (Fed. Cir. 2017) (quoting *In re
 23 Ethicon, Inc.*, 844 F.3d 1344, 1351 (Fed. Cir. 2017)).

24 Eberhardt-332 does not clearly discourage a person of ordinary skill in the art from using
 25 flip chip assembly. In fact, Eberhardt-332 teaches that flip chip assembly is particularly suited in
 26 certain circumstances, for example, where the antenna traces are printed on the substrate. *See Ex.*
 27 519 at 3:1-4 (“Flip chip is more suited for coupling to printed traces”). Eberhardt-332 also
 28 identifies some drawbacks of flip chip, in particular the added cost of forming bumped pads and

1 the use of backfill adhesive. *Id.* at 3:4-14; *see also* Tr. at 1034:23-1035:16. But identifying
 2 drawbacks does not mean Eberhardt-332 is teaching away from flip chip assembly. *See In re*
 3 *Kayyali*, 652 F. App'x 949, 953 (Fed. Cir. 2016) (suggestions that alternative was “expensive”
 4 and had other drawbacks were “not enough to teach skilled artisans away from the alternative”).
 5 And that is particularly true where Eberhardt itself proposes a solution for those drawbacks. Tr.
 6 at 1034:23-1035:16. For example, Eberhardt proposes printing large interconnection pads in
 7 order to reduce the cost of making large pads. *See* Ex. 518 at 2:21-37; 6:58-7:5.

8 Impinj contends that “Eberhardt explicitly teaches that the printing assembly method
 9 disclosed in Eberhardt ’332 should be used to connect the large, printed pads of its IC to the
 10 antenna.” Dkt. 444 at 15. But Eberhardt does **not** teach that Eberhardt-332’s printing method
 11 **should** or **must** be used, nor does it teach that flip chip is inferior to Eberhardt-332’s printing
 12 method.⁴ Although Eberhardt does teach that Eberhardt-332’s printing method can be used to
 13 couple the large pads to the antenna, and even if it expressed a preference for that method, that
 14 does not teach away from flip chip. “A reference that merely expresses a general preference for
 15 an alternative invention but does not criticize, discredit, or otherwise discourage investigation into
 16 the claimed invention does not teach away.” *Meiresonne*, 849 F.3d at 1382 (internal quotation
 17 marks omitted). This is particularly true here, given that Eberhardt teaches that flip chip is
 18 improved by larger interconnection pads and Eberhardt’s invention is directed to printed large
 19 interconnection pads.

20 Moreover, if Impinj were correct that Eberhardt-332 taught away from flip chip, then
 21 Eberhardt’s large interconnection pads would be superfluous. Eberhardt introduced printed large
 22 interconnection pads specifically to increase the area for coupling to, and facilitate aligning the
 23

24 ⁴ Tellingly, Eberhardt’s claims do not require any particular kind of assembly, be it flip
 25 chip assembly or Eberhardt-332’s printing method. Eberhardt’s claims are directed to an IC with
 26 printed large interconnection pads, wherein the IC is secured to a substrate and the large
 27 interconnection pads are electrically coupled to the antenna. *E.g.*, Ex. 518 at 7:12-23. Because
 28 the claims do not specify how the IC is secured to the substrate, or how the large pads are coupled
 to the antenna, any means—flip chip included—would fall within the scope of the claims. The
 scope of the claims supports NXP’s position that Eberhardt’s invention consists of printed large
 interconnection pads, not Eberhardt-332’s method of coupling the interconnection pads to the
 antenna via an additional layer of printed conductive material.

1 interconnection pads with, the antenna on a substrate. *See* Ex. 518 at 2:30-36; 6:58-7:5. But
 2 Eberhardt-332's printing method obviates both of those objectives. As illustrated in Eberhardt-
 3 332's figures, there is no need to align the interconnection pads with the conductive traces
 4 because the layer of conductive material is printed continuously from the interconnection pads to
 5 the antenna traces. *See, e.g.*, Tr. Ex. 519 at FIGS. 1, 3, 4. Additionally, there would be no need
 6 to increase the area for coupling between the interconnection pads and the antenna traces because
 7 the interconnection pads do not couple directly to the traces—it is the continuous layer of printed
 8 conductive material that directly couples to the traces. Eberhardt's printed large interconnection
 9 pads are not superfluous, however. As Eberhardt makes clear, flip chip assembly does require
 10 aligning the bumped pads with the antenna traces so that they can electrically couple to the traces,
 11 and, “[a]s will be readily appreciated, larger interconnection pads . . . provide more area for
 12 coupling [and] makes aligning the tag circuit chip with the conductive traces easier.” Ex. 518 at
 13 2:21-35.

14 **3. Eberhardt-920 Is Part of Eberhardt's Full Disclosure And Plainly
 Discloses Preferred Embodiments In A Flip Chip Configuration.**

15 Furthermore, Impinj ignores Eberhardt's full disclosure, including its incorporation by
 16 reference of Eberhardt-920. *Id.* at 1:10-16. Eberhardt-920 specifically discloses various
 17 preferred embodiments where ICs with large rectangular interconnection pads are used in a flip
 18 chip configuration. Ex. 1248 at 7:19-24; FIG. 9. For example, Figure 9 of Eberhardt-920
 19 illustrates an IC in the flip chip configuration where the IC is inverted and the bumped pads are
 20 aligned with and electrically couple to the conductive traces of an antenna on a substrate, just as
 21 described in Eberhardt. *See id.* at FIG. 9; *see also* Tr. at 1180:7-20 (Impinj's expert Dr.
 22 Thompson conceding that Figure 9 of Eberhardt-920 illustrates a preferred embodiment using a
 23 flip chip assembly); 1181:25-1182:1 (same); 1022:12-16 (Dr. Subramanian explaining that,
 24 “Eberhardt, in one of the many disclosures it has, specifically deals with flip chip. It's trying to
 25 make a connection [of] the integrated circuit to an external substrate such as an antenna.
 26 Eberhardt specifically shows that in its figures.”). Eberhardt-920 also teaches that a **printed**
 27 conductive pattern can form a preferred antenna (Ex. 1248 at Abstract), while Eberhardt-332
 28 teaches that “Flip chip technology is more suited for coupling to **printed** [antenna] traces.” Ex.

1 519 at 3:1-4 (emphasis added).

2 Impinj's reliance on *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314
 3 (Fed. Cir. 2009), is unavailing. That case involved a patent directed to a polyaxial pedicle screw
 4 used in spinal surgeries. *Id.* at 1320. The accused infringer argued that a person of ordinary skill
 5 would have been motivated to combine two prior art references in order to obtain a rigid pedicle
 6 screw. *Id.* at 1326. But because one of the references taught that rigidity increases the likelihood
 7 that the screw will break and fail inside the body, the court held that the reference taught away
 8 from the combination. *Id.* at 1325-27.

9 There are no similar facts here. Neither Eberhardt nor Eberhardt-332 teaches that flip chip
 10 increases the likelihood of failure, or is otherwise inferior from a technical perspective. To the
 11 contrary, Eberhardt-920 identifies ***multiple preferred embodiments using flip chip assembly***, and
 12 Eberhardt-332 recognizes that flip chip is preferable in certain circumstances, for example with
 13 printed antenna traces. Ex. 519 at 3:1-4. That Eberhardt-332 may point out an economic
 14 disadvantage of flip chip—*i.e.*, the increased cost of making large bumped pads—does not mean
 15 Eberhardt teaches away from using flip chip, especially because Eberhardt's invention is
 16 specifically aimed at making large interconnection pads less expensive. *See Grit Energy Sols. v.*
 17 *Oren Techs., LLC*, 957 F.3d 1309, 1323-24 (Fed. Cir. 2020) (“even if we accept the Board’s
 18 factual determination that [the proposed combination] would result in a more expensive system,
 19 that determination, standing alone, is insufficient to reject each of [accused infringer’s] arguments
 20 as to why a skilled artisan would have been motivated to make the proposed swap”) (citing
 21 *Orthopedic Equip. Co., Inc. v. U.S.*, 702 F.2d 1005, 1013 (Fed. Cir. 1983)) (explaining that “the
 22 fact that the two disclosed apparatus would not be combined by businessmen for economic
 23 reasons is not the same as saying that it could not be done because skilled persons in the art felt
 24 that there was some technological incompatibility that prevented their combination”).

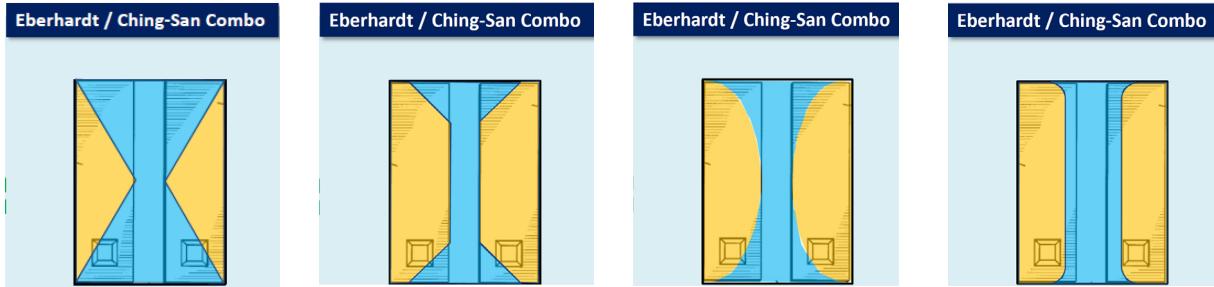
25 * * *

26 When Eberhardt’s full disclosure is considered, the evidence shows that Eberhardt does
 27 not teach away from using flip chip. It expressly discloses flip chip as a preferred embodiment,
 28 and teaches that its printed large interconnection pads improve flip chip assembly.

C. Combining Eberhardt and Ching-San Neither Contradicts Eberhardt's Teachings Nor Renders Its IC Inoperable.

3 Impinj contends that “Dr. Subramanian’s proposed modification to Eberhardt . . .
4 contradicts Eberhardt’s goal to make its pads as large as possible.” Dkt. 444 at 18. But
5 Eberhardt’s goal is **not** “to make its pads *as large as possible*,” and Impinj’s citations to
6 Eberhardt’s specification do not show otherwise. Eberhardt teaches forming “enlarged”
7 interconnection pads that “provide a substantially larger coupling area,” and that “greater than
8 20:1 increase in interconnection pad area may be obtained using the present invention.” Ex. 518
9 at 4:21-33; 6:58-67. But those teachings do not require the interconnection pads to be “as large as
10 possible,” nor do they suggest that modifying the shape of Eberhardt’s pads to add the benefits of
11 Ching-San would somehow be incompatible with Eberhardt’s objective of enlarging the size of
12 the interconnection pads. Eberhardt’s enlarged interconnection pads modified according to the
13 teachings of Ching-San still “provide a substantially larger coupling area” as compared to the
14 small interconnection pads on the surface of the IC, and Impinj fails to identify evidence
15 suggesting otherwise.

16 Impinj also argues that combining Eberhardt with Ching-San would render Eberhardt's IC
17 inoperable. Impinj asserts that Dr. Subramanian's combination would mean that "only part of
18 [the] aperture [around the small interconnection pad on the surface of the IC] would be in contact
19 with Eberhardt's large pad," and that this "**could** affect the operability of Eberhardt's IC." Dkt.
20 444 at 18 (emphasis added). But Impinj offers no evidence to support this assertion of what
21 **could** happen. *See id.* The image from Dr. Subramanian's demonstrative slides is not evidence
22 and is not an engineering specification—it is a demonstrative to illustrate how Eberhardt's pads
23 might be re-shaped using Ching-San's teachings. Moreover, Impinj's argument is based on only
24 one of four images included in Dr. Subramanian's demonstrative slides. Impinj ignores the other
25 three images where the modified enlarged interconnection pads clearly cover the apertures.



Additionally, Impinj's argument mistakes a person of ordinary skill for an automaton that would blindly modify Eberhardt's large interconnection pads with the shapes of Ching-San without moving or otherwise accounting for the location of the small interconnection pads on the surface of the IC. But that runs counter to established Supreme Court and Federal Circuit case law. The Supreme Court has made it clear that “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton,” that employs “common sense” to “fit the teachings of multiple patents together like pieces of a puzzle” or “pursue the known options within his or her technical grasp.” *KSR*, 550 U.S. at 420. Indeed, the Federal Circuit has counseled that the “inquiry ‘not only permits, but *requires*, consideration of common knowledge and common sense.’” *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013) (emphasis added) (quoting *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006)). Moreover, “[c]laims may be obvious in view of a combination of references, even if the features of one reference cannot be substituted physically into the structure of the other reference. What matters in the § 103 nonobviousness determination is whether a person of ordinary skill in the art, having all of the teachings of the references before him, is able to produce the structure defined by the claim.” *Orthopedic Equip.*, 702 F.2d at 1013 (internal citation omitted).

This is not a situation where the two references are inherently incompatible, or where implementing Ching-San necessarily would render Eberhardt's IC useless. And, contrary to Impinj's assertion otherwise, a person of ordinary skill would not blindly take Ching-San's shapes and apply them to Eberhardt's IC in a way that would render the IC inoperable. It does not matter that Ching-San's shaped pins cannot be physically ported over into Eberhardt. The law recognizes that a person of ordinary skill would use expertise and common sense to

implement Ching-San's teachings in Eberhardt's IC to achieve a functioning product that meets the requirements of the '302 patent's claims.

D. Dr. Subramanian Directly Addressed Impinj's Evidence of Alleged Secondary Considerations.

Impinj argues that Dr. Subramanian failed “to consider all evidence of secondary considerations of non-obviousness further establish[ing] that his obviousness analysis was faulty.” Dkt. 444 at 19. This argument should be rejected as waived. It is also meritless.

1. Impinj's Argument Regarding Secondary Considerations Is Waived.

Impinj’s Rule 50(a) motion never advanced any argument based on a supposed failure to consider evidence of secondary considerations. *See* Dkt. 420. Because it is a renewed motion, a proper Rule 50(b) motion is limited to the grounds asserted in the Rule 50(a) motion. *Go Daddy Software*, 581 F.3d at 961. Consequently, Impinj “cannot properly ‘raise arguments in its post-trial motion for judgment as a matter of law under Rule 50(b) that it did not raise in its preverdict Rule 50(a) motion.’” *Id.* (internal quotation marks omitted); *accord Murphy v. City of Long Beach*, 914 F.2d 183, 186 (9th Cir. 1990) (“[Judgment notwithstanding the verdict] is improper if based upon grounds not alleged in a directed verdict [motion].” (brackets in original)); *see also* Fed. R. Civ. P. 50 advisory committee’s notes to the 2006 amendments (“Because the Rule 50(b) motion is only a renewal of the preverdict motion, it can be granted only on grounds advanced in the preverdict motion.”). Impinj’s new argument may be rejected for this reason alone.

2. Dr. Subramanian Directly Addressed Impinj's Purported Evidence of Secondary Considerations.

Regardless of waiver, Impinj’s new argument is without merit because Dr. Subramanian squarely addressed Impinj’s purported evidence of secondary considerations. Tr. at 1040:24-1043:13. In particular, Dr. Subramanian acknowledged that Impinj and its expert Dr. Thompson had identified purported evidence of industry praise, commercial success, and copying by others as secondary considerations of non-obviousness. *Id.* at 1041:21-1042:21. But Dr. Subramanian explained that the evidence failed to show non-obviousness because there was no nexus between the claims and the alleged industry praise, commercial success, and copying.

With respect to the purported evidence of industry praise, Dr. Subramanian explained that it was actually “just praising the use of large pads.” *Id.* at 1041:21-24. As he told the jury, “Large pads are not the invention. . . . It has to be the specific shape, and that is not there. There’s no nexus establishing that.” *Id.* at 1041:24-1042:2. As for the purported evidence of commercial success, Dr. Subramanian explained that “it’s certainly true that Impinj has sold a lot of . . . Monza chips . . . but there’s no nexus establishing that that is because of the invention. In other words, the specific requirements with respect to the pads and the shape of the channel.” *Id.* at 1042:3-8. And with respect to copying by others, Dr. Subramanian explained that Impinj “didn’t provide evidence [that NXP copied]. They simply stated that.” *Id.* at 1042:9-12. Dr. Subramanian recounted that Dr. Zenz unequivocally testified that “NXP did not copy, and he told you why.” *Id.* at 1042:13-15. Then Dr. Subramanian reminded the jury that Dr. Zenz “told you about the evolution of the technology. He showed you that they had these . . . mega bump technologies earlier [and] migrated them up. They used the specific shapes that they used and the specific structures that they used through their internal developments.” *Id.* at 1042:15-21. Thus, Dr. Subramanian concluded that “there is no basis for any of the secondary considerations of non-obviousness that Dr. Thompson has put forth.” *Id.* at 1042:22-24.

Dr. Thompson did not respond with any purported evidence of secondary considerations that Dr. Subramanian did not already consider and address. In fact, Dr. Thompson’s testimony concerning secondary considerations was largely unintelligible and did not refer to any specific evidence or explain why his generalized statements established non-obviousness of the ’302 patent’s claims. *See id.* at 1174:14-1175:16. Dr. Thompson reasoned that the claimed invention could not have been obvious because Eberhardt “is . . . over 20 years old, right? If it was so obvious, why did someone not invent this till like 2015?” *Id.* at 1174:16-20. But because Impinj never presented any evidence of a long-felt need for the invention, or failure by others to make the invention, the fact that Eberhardt is 20 years old is insufficient as a matter of law to establish non-obviousness. *See Iron Grip Barbell Co., Inc. v. USA Sports, Inc.*, 392 F.3d 1317, 1325 (Fed. Cir. 2004) (“Absent a showing of long-felt need or the failure of others, the mere passage of time without the claimed invention is not evidence of nonobviousness.”).

1 Next, Dr. Thompson vaguely referred to two articles he never specifically identified that
 2 allegedly constitute evidence of industry praise: “one’s from Impinj, and one’s from just a
 3 general trade news” and “basically . . . they’re saying this grain of rice . . . is aligned better to the
 4 antenna.” Tr. at 1174:21-22. It is unclear what Dr. Thompson was trying to say. But to the
 5 extent “one’s from Impinj,” that article would not constitute “industry praise” because it is not
 6 from the industry. Impinj cannot praise its own invention and then cite that praise as evidence of
 7 non-obviousness. And even to the extent the unidentified articles were from the industry, Dr.
 8 Thompson did not provide any nexus whatsoever between the articles to the claimed invention of
 9 the ’302 patent. *See Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311–12 (Fed. Cir. 2006)
 10 (“Evidence of commercial success, or other secondary considerations, is only significant if there
 11 is a nexus between the claimed invention and the commercial success.”).

12 Thus, Dr. Subramanian did address the purported evidence of secondary considerations,
 13 and Dr. Thompson failed to rebut it.

14 **3. The Evidence Identified in Impinj’s Motion Fails to Establish a Nexus
 15 Between the Claimed Invention and the Purported Secondary
 16 Considerations.**

17 Impinj contends that Dr. Subramanian also did not consider additional purported evidence
 18 of secondary considerations beyond Dr. Thompson’s testimony. Dkt. 444 at 19-21. But Impinj
 19 has no basis for contending that Dr. Subramanian did not consider that evidence. As Impinj
 20 admits, “Dr. Subramanian attended the entire trial” and heard and saw all the evidence introduced
 21 by Impinj. *Id.* at 19. And he testified that none of the purported evidence of secondary
 22 considerations changed his view that the asserted claims are invalid for obviousness because it
 23 lacked the required nexus to the claimed invention. Tr. at 1040:24-1043:13. The evidence Impinj
 24 now points to in its motion fails for the same reason explained by Dr. Subramanian—it lacks the
 25 required nexus. For example, Impinj points to Ron Oliver’s testimony that the Enduro pads
 26 “produced surprising results.” *Id.* at 19 (citing Tr. at 325:19-326:1). But the only “surprising
 27 results” cited by Impinj consist of “better contact, less likely to break, less likely to shift”—the
 28 same improvements Mr. Oliver identified previously with respect to “large pads.” Tr. at 323:23-
 324:9. Therefore, Mr. Oliver’s testimony relates to large pads generally, but does not establish

1 any nexus between the claimed invention and the “surprising results.”

2 Impinj also points to the UCODE 8 Customer Requirements Specification as purported
 3 evidence that NXP copied Impinj’s Enduro technology. Dkt. 444 at 19 (erroneously citing Tr.
 4 Ex. 329). But the UCODE 8 Customer Requirements Specification does not provide any support
 5 for the notion that NXP copied Impinj. *See* Ex. 229. Merely calling Enduro’s shift from four
 6 contact pads to two “a complete new concept into the UHF market” is not evidence that NXP
 7 copied Impinj. Additionally, as explained above, Dr. Subramanian relied on Dr. Zenz’s
 8 unequivocal testimony that NXP did not copy Impinj. Tr. at 1042:13-24. Moreover, “[n]ot every
 9 competing product that arguably falls within the scope of a patent is evidence of copying.
 10 Otherwise every infringement suit would automatically confirm the nonobviousness of the patent.
 11 Rather, copying requires the replication of a specific product.” *Iron Grip Barbell*, 392 F.3d at
 12 1325. Impinj does not even contend, let alone identify any evidence, that NXP’s UCODE 8
 13 product is a replica of Impinj’s Monza product. The mere fact that the UCODE products were
 14 found to infringe the ’302 patent does not establish copying by others. *See id.* Furthermore, “a
 15 showing of copying is only equivocal evidence of non-obviousness in the absence of more
 16 compelling objective indicia of other secondary considerations.” *Ecolochem, Inc. v. S. Cal.*
 17 *Edison Co.*, 227 F.3d 1361, 1380 (Fed. Cir. 2000). And “more than the mere fact of copying by
 18 an accused infringer is needed to make that action significant to a determination of the
 19 obviousness issue.” *In re GPAC, Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995) (quoting *Cable Elec.*
 20 *Prods. v. Genmark, Inc.*, 770 F.2d 1015, 1028 (Fed. Cir. 1985).)

21 Finally, Impinj points to two articles as evidence of purported “industry praise.” Dkt. 444
 22 at 19-20 (citing Exs. 54, 55). But these two exhibits suffer from the same shortcomings as the
 23 other purported evidence. For example, Exhibit 54 is a press release from Impinj itself—it is not
 24 reflective of any industry praise. Indeed, the alleged article is dated April 2, 2014, and indicates
 25 that “Impinj, Inc. **today** announced its Monza R6 tag chip.” Ex. 54 at 1 (emphasis added). Even
 26 if Impinj’s press release were regarded as an independent “article,” it cannot possibly reflect
 27 industry praise because it was published the very day the product was announced—*i.e.*, before the
 28 industry could even see and use the Monza R6 chip. Regardless, there is nothing in the press

1 release demonstrating a nexus between any purported praise and the claimed invention. *See* Ex.
 2 54. The same is true of the Chainlink Research Article, which is limited to describing the size of
 3 the Monza R6's Enduro pads, not the specific shape of the channel. *See* Ex. 55 at 2-3 ("Monza
 4 R6 addresses this by providing two antenna attachment surfaces that are *much* larger than the
 5 traditional bumps. . . . With the big surface areas, tag manufacturers could use less amounts of
 6 ACP and yet get reliable connection with the antenna.").

7 Accordingly, because there is no nexus to the '302 patent's claimed invention, Impinj's
 8 purported evidence of secondary considerations is irrelevant and fails to overcome NXP's strong
 9 showing of obviousness. *See Stamps.com v. Endicia, Inc.*, 437 Fed. App'x 897, 905 (Fed. Cir.
 10 2011) ("Given the strong showing of obviousness, we find that the evidence of secondary
 11 considerations was inadequate to overcome the legal conclusion that the contested claims would
 12 have been obvious."); *see also Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162
 13 (Fed. Cir. 2007) ("The district court explicitly stated in its opinion that Leapfrog had provided
 14 substantial evidence of commercial success, praise, and long-felt need, but that, given the strength
 15 of the *prima facie* obviousness showing, the evidence on secondary considerations was
 16 inadequate to overcome a final conclusion that claim 25 would have been obvious.").

17 **V. CONCLUSION**

18 Impinj's motion should be denied because it has not demonstrated that a verdict finding
 19 claims 1, 3, 4, and 7 of the '302 patent invalid would be unsupported by substantial evidence. Dr.
 20 Subramanian's testimony, and the exhibits on which he relied, provide ample support for the
 21 conclusion that a person of ordinary skill in the art would have been motivated to combine
 22 Eberhardt with the teachings of Ching-San, and that the resulting combination would have
 23 satisfied every limitation of the asserted claims.

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1 Dated: August 11, 2023

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